Revisional Notes on the Family Cistelidae (Order Coleoptera).

By H. J. Carter, B.A., F.E.S.

[Read August 12, 1920.]

Cistelidae[1].—Through the courtesy of Professor Poulton, who has personally taken the Hope types to the British Museum, it is now possible to clear up some of the mysteries connected with species unidentified in Australian collections referred to in my Revision,[2] and I gladly quote the result of Mr. Blair's examination of these:—

"Hybrenia (allecula) pimelioides, Hope (N. Holl.). Type male agrees with a single broken specimen in the British Museum from Port Darwin. It is without doubt *Hybrenia princeps*, Blackb. (type female), and is, I think, different from the Queensland species that I had as *pimelioides*. The punctures of both thorax and elytra are finer and more sparsely placed, those of the striae are not connected by any impressed line, the hind tibiae of male are straight, not incurved at apex, and the impression on the last abdominal segment extends nearly (¾ of the way) to the base, and has two blunt tubercles at its limits. This last character sharply separates it from *H. elongata*, Macl., and the lack of impressed striae on the elytra separates it from *H. sublaevis*, Macl. (*id.*, H. J. C.), of which, however, I have no male.

"A. omophiloides, Hope (type female, N. Holl.), is correctly determined as *Metistete singularis*, Haag.

"*A. melancholica*, Hope (type female, N. Holl.) = M. gibbicollis, Newm.

"*A. foveicollis*, Hope (type female, N. Holl.) = H. cisteloides, Newm. (type male).

"A. canescens, Hope (type, Port Essington), is not the species usually so identified, but is nearer *H. maculata*, Haag.

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(1) By the kind permission of the Editor, the following note is added since reading of paper:—"In the catalogue of Junk, Herr Borchmann followed Seidlitz in substituting the name Alleculidae [used in this paper when read] for Cistelidae on the ground that *Cistela* was used by Geoffroy (1764) in another family, and therefore *Cistela* F. (1773) was preoccupied. Geoffroy's names, however, are not accepted, hence *Cistela* F. stands as a valid generic name, with type *sulphurea*, Latr. (1810), and the family name is therefore correctly Cistelidae."

(2) Proc. Roy. Soc. Vict., 1915, p. 82.

I send a specimen that agrees with it for your examination." [=*H. maculata*, Haag., which thus disappears as a synonym; while *H. canescens*, Blackb. (*nec* Hope), also my Revision, p. 80, requires a name, and is described below as *H. scutellaris*.—H. J. C.]

"A. Gouldii, Hope (type, W. Australia), agrees with a specimen unnamed in British Museum from Champion Bay (Duboulay). I send this for your examination." [This is a species of which I have lately seen several in the South Australian Museum from the Perth district, and which I consider congeneric with *Dimorphochilus diversicollis*, Borch., and is redescribed below.—H. J. C.]

"A. nigricans, Hope (type female, Port Essington), agrees with specimen (male) unnamed in British Museum from N.W. Australia. This I send for examination." [Redescribed below.—H. J. C.]

"Allecula rufa, Sol. This is a Chilian insect, from Coquimbo." [Borchmann, in the Junk Catalogue, erroneously ascribed this to Australia; hence Homotrysis rufa, Blackb., is a valid name, and my proposed substitute, *H. rubra*, is superfluous.—H. J. C.]

Homotrysis arida, Blackb. = *H. sitiens*, Blackb. Mr. Blair writes, "I see no real point of distinction between Blackburn's species '*arida*' and '*sitiens*.'"

[N.B.—Names in italics are synonyms.]

Synatractus variabilis, Macl. Mr. Lea has lately pointed out to me that this species has tarsal claws entire, *not* pectinate; a fact which I confirm from examination. Moreover, from British Museum specimens, it seems to belong to the genus *Casnonidea*, Fairm. (Family Lagriidae), of which various species occur from India to New Guinea. The name *Synatractus* thus disappears from the Australian list, and Macleay's species becomes *Casnonidea variabilis*, Macl., unless it should prove to be synonymous with one of Fairmaire's species.

The following are new species, largely from the South Australian Museum or my own collection, examined since the publication of my Revision of the Family:—

Chromomoea gracillima, n. sp.

Elongate, oblong, narrowly tapering behind; whole surface metallic-black, glabrous; base of femora, three basal joints of antennae and palpi testaceous, tibiae also with testaceous band (in one example at least).

Head densely punctate, in male wider than prothorax, in female as wide as the apex of prothorax; eyes widely

separated, not very prominent, antennae with joint 3 longer than 4 and cylindric, 4-10 subequal and narrowly triangular, 11 of equal length with 10 but more slender. *Prothorax* slightly longer than wide, very convex laterally, truncate at base, at apex a little produced in middle, in male sides nearly straight, feebly narrowed and rounded in front, hind angles rectangular; in female sides clearly but lightly rounded, gently widening posteriorly, finely, closely but not deeply punctate, a central depressed fovea near base and small triangular basal fovea near angles. *Scutellum* triangular. *Elytra* wider than prothorax at base, convex and elongate, tapering behind, very finely striate-punctate; intervals closely punctate, with feeble pubescence near apex; underside finely punctate, tibiae entire in both sexes. *Dim.*—Male, $5 \times 1\frac{1}{2}$; female, 7×2 (vix) mm.

Hab.—Queensland: Cairns district (F. P. Dodd).

Four examples, of which three are apparently males. The female example is larger, with the thorax more rounded at sides and widened behind; the elytra also show vague indications of paler markings (somewhat as in *C. picta*, Pasc.). The only species with which it could be confused are *C. unicolor*, Bates, var. *lindensis*, Blackb., and *C. affinis*, Blackb.; but besides size and colour differences, the surface of *gracillima* is more glabrous and nitid than either of these, with a much lighter system of punctures, especially on the pronotum, while the form is more cylindric. Types in the South Australian Musuem.

Anaxo dentipes, n. sp.

Elongate, subparallel, nitid dark bronze, labrum, antennae, and basal half of tibiae reddish; head and underside rather thickly clothed with white recumbent hairs.

Head closely punctate, eyes separated by a distance of about the diameter of one eye; antennae moderately stout, the joints thickened at apex, 3 and 4 subequal, 5 to 11 successively shorter, 10 and 11 narrower than preceding. *Prothorax* moderately convex, nearly square, truncate at base and apex, sides nearly straight, the anterior angles rounded off, posterior rectangular; lateral margins not visible from above, basal and apical margins narrowly raised, disc coarsely and unevenly punctate, with one or two smooth spaces on each lobe, medial impression wide and shallow (in one example subobsolete). *Scutellum* round behind, thickly albo-pilose. *Elytra* wider than prothorax at base, sides parallel for the greater part; punctate-striate, the seriate punctures large, round, close, and regular; intervals convex-subcarinate in

apical region and almost smooth (a few irregular minute punctures only visible under a lens). *Abdomen* nearly smooth, sternum densely albo-pilose. Front *tibiae* of male armed with a tooth, about one-third of distance from apex. *Dim.*—10-12 × 3½-4 mm.

Hab.—North-western Australia: Wyndham (W. Crawshaw), two males. Western Australia (French Collection in National Museum): one female.

The female specimen is almost certainly the mate of the Wyndham examples, though the pilose clothing is less evident, and the tibiae are unarmed. The red tibiae with darker-coloured tarsi is an unusual feature. Type in author's collection.

ANAXO STRONGYLIOIDES, n. sp.

Oblong, nitid-black, antennae opaque-black.

Head coarsely and closely punctate, arcuate suture well marked; eyes prominent and widely separated, antennae linear, joints 3-5 subequal, 6-8 shorter than preceding, 9-10 shorter than 6-8, 11 longer and finer than 10. *Prothorax* convex, rather strongly produced in middle at apex, wider than long, sides nearly straight, anterior angles obsolete (depressed and rounded), posterior subrectangular, disc coarsely, not closely punctate, with smooth medial line in a depression, terminated behind by a transverse depression. *Scutellum* triangular. *Elytra* wider than prothorax at base, oblong, slightly enlarged behind middle, shoulders rather square, striate-punctate, the seriate punctures very large, round, and regular, the striae nearly as wide as the intervals; the latter apparently impunctate and very slightly convex, with transverse rugosity. *Metasternum* finely punctate, abdomen nearly smooth. Posterior *tarsi* with first joint as long as the rest combined. *Dim.*—8½ × 3 mm.

Hab.—Queeensland: Cairns District (F. P. Dodd).

A unique example, sex doubtful, is unlike any described species, having a coarse system of elytral punctures. In my table[3] the only species which approaches it is *A. sparsus*, Blackb., which is larger, and has red legs, and red base of antennae, besides finer elytral sculpture. In this species even the tarsi are black. It is sometimes difficult to say whether the apparent convexity of elytral intervals is due to their rising above the average surface, or to the striae being so excavated as to give a similar effect. In the above species the intervals appear flat when seen from above, their slight convexity seen from behind is due to the rather deep and wide sculpture of the striae and to the large size of the punctures themselves. Type in South Australian Museum.

[3] *L.c.*, p. 67.

HEMICISTELA TESTACEA, n. sp.

Elongate-oblong, whole surface and appendages testaceous and glabrous; eyes black; suture of elytra, apical segments of abdomen (sometimes), pronotum (rarely) fuscous.

Head very finely punctate; eyes widely separated, moderately prominent; antennae long, joints very narrowly triangular, 3-10 subequal, 11 shorter and finer than 10. *Prothorax* depressed; truncate at apex and base, widest at middle, thence arcuately narrowed to apex and obliquely feebly narrowed to base; disc uniformly finely punctate; medial line lightly impressed or wanting; two small transverse foveae at base. *Scutellum* small, semi-circular. *Elytra* wider than prothorax at base and four times as long, parallel, or lightly enlarged behind middle; finely but clearly striate-punctate, punctures in striae round, fine but distinct throughout; intervals quite flat and minutely but clearly punctured. *Underside* smooth and nitid. *Legs* simple, hind tarsi with basal joint as long as the next two. *Dim.*—5-6 × $1\frac{3}{4}$-$2\frac{1}{2}$ mm.

Hab.—Western Australia: Swan River (A. M. Lea).

Fourteen examples show a fragile insect without strongly defined characters. The prothorax is shaped as in *H. discoidalis*, Blackb., and indeed the two species are very similar in structure. The mandibles are clearly simple at apex. *H. testacea* differs from *discoidalis* in colour paler, without the lateral obfuscation of elytra, antennal joints more elongate, elytral intervals quite differently punctured (closely and finely in *testacea*, sparsely "subfortiter" in *discoidalis*). Types in the South Australian Museum.

As the following two species have never been identified in any Australian collection, and were quite inadequately described in three lines (each) of Latin—in one instance without any dimensions—I append fuller descriptions:—

DIMORPHOCHILUS (ALLECULA) GOULDII, Hope.

Elongate, ovate, red or black, glabrous; antennae, tibiae, and tarsi red.

Head produced strongly in front, labrum very prominent; mandibles simple (one-pointed); sparsely and finely punctate; eyes large and prominent, separated (in both sexes) by a space of about half the diameter of one; antennae linear, very slender, joint 3 slightly larger than 4, 4-6 equal, 7-10 shorter and wider than preceding, 11 much narrower than 10. *Prothorax* (about 2 × 3 mm.) truncate at apex and base, hind angles rectangular, sides parallel behind, arcuately narrowed on front half, anterior angles obsolete; disc sparsely, lightly punctate, with small transverse basal foveae, and without

medial line. *Elytra* wider than prothorax at base, narrowly oval, or slightly widened behind middle; striate-punctate, the seriate punctures small, only obvious on basal half; the striae deep, intervals convex (especially at sides and apex), lightly punctate; *mesosternum* strongly and sparsely, abdomen finely punctate. *Dim.*—12-13 × 4-4½ mm.

Hab.—Northern Territory: Port Essington (type). Western Australia: Champion Bay (British Museum) and Swan River (J. Clark).

A *Tanychilus*-like insect, of which the red examples (the type is red) are probably immature. It appears to be widespread in Western Australia, and bears a superficial resemblance to the common *Homotrysis rufipes*, F., of Eastern Australia, but has the elytral intervals more convex, and the seriate punctures more hidden in striae, while the head is quite differently shaped, with simple mandibles. It is evidently not *D. sobrinus*, Borch., in which the intervals are quite smooth, and the striae almost vanishing towards the apex; but I consider it most at home under *Dimorphochilus*, a genus on the border line between the two main divisions of the family, but belonging rather to the first than to the second of these Divisions.

HOMOTRYSIS (ALLECULA) NIGRICANS, Hope.

Elongate-ovate, nitid-black, pilose; edge of clypeus, palpi, and tarsi red. Upper-surface sparsely clad with upright reddish hair, under-surface with short recumbent pile.

Head rather strongly and closely punctate, eyes large and prominent, separated by a space equal to half the diameter of one; antennae with joints 3-10 subequal in length, but 6-10 successively wider at apex, 11 narrowly ovate. *Prothorax* a little sinuate (produced in middle) at apex, truncate and widest at base, a little compressed in middle, posterior angles subacute, sides arcuately narrowed in front; disc coarsely, sparsely punctate, medial line only indicated by an impression at base and a shallow impression near apex; triangular basal foveae well marked. *Elytra* very little wider than prothorax at base, ovate-elliptic; striate-punctate, the seriate punctures well marked, irregular in size; intervals subconvex, coarsely and sparsely punctate and irregularly transversely rugose. *Sternum* coarsely, abdomen very finely punctate. *Legs* very hairy; posterior tarsi with first joint *not* as long as the rest combined. *Dim.*—9 × 2½ mm.

Hab.—Northern Territory: Port Essington and Darwin.

A small, narrow species, nearest to *H. fusca*, Blackb., but the latter has the elytral intervals flat, with a smaller differently-shaped prothorax *inter alia*.

HOMOTRYSIS KERSHAWI, n. sp.

Elongate, subnavicular; chocolate-brown, head and pronotum subopaque, elytra and underside nitid; labrum, palpi, basal joints of antennae, and tarsi reddish.

Head and *prothorax* densely (confluently) punctate; the eyes very large and prominent, separated by a distance of about half the diameter of one eye; antennae long and very slender, the joints linear, 3 longer than 4, 5-11 successively shorter. *Prothorax* very convex, about as wide as long, slightly narrowed anteriorly; apex a little sinuate, front angles obtuse, but sharply defined, base truncate, hind angles rectangular, sides nearly straight, on basal half gradually contracting in front; basal foveae scarcely defined, disc without medial line, thinly margined at base and sides, the lateral margin not seen from above. *Elytra* considerably wider than prothorax at base and about three and a half times as long; striate-punctate, the striae wide, seriate punctures less obvious near suture, but large, square, and divided by cancellate ridges on external half; intervals convex, coarsely punctate, with a line of thin pale recumbent hair on each. *Sternum* coarsely, abdomen more finely punctate, each puncture on the latter bearing a short recumbent red hair. *Dim.*—10-11 × 3½-4 mm.

Hab.—Overland Railway, 24 miles west of Kycherny Soak, collected by Mr. Chandler. Western Australia: Eucla.

Four male examples show a species specifically like a common Western Australian insect that I have doubtfully identified as *H. obscura*, Borch., but differing in smaller size, more prominent and closely-set eyes, antennae quite different, elytra pilose, etc. It is evidently not *H. scabrosa*, Champ., whose antennae are "rather stout," joint 3 "shorter than 4," etc. Type in the National Museum, Melbourne.

HOMOTRYSIS PALLIPES, n. sp.

Elongate, subparallel, subopaque-black; labrum, palpi, legs, and tarsi testaceous, knees infuscate. Elytra with short, sparse, reddish hairs, underside with longer recumbent hair.

Head densely punctate; eyes of male separated by a space of half the diameter of an eye, in female more widely separated, antennal joints rather stoutly linear, 3-11 subequal in length, 3-5 slightly widening apically. *Prothorax* truncate at apex, slightly sinuate at base, sides nearly straight on basal half, arcuately narrowed to apex; front angles obsolete, posterior sharply rectangular; surface very densely punctate, the punctures subcontiguous, a shallow basal impression near angles, and a few short reddish hairs near sides. *Scutellum*

small and round. *Elytra* as wide as prothorax at base, the rounded humeri causing a slight expansion, sides parallel to half-way, then a little widened behind middle; striate-punctate, the striae deep, the punctures therein close and well marked only near base and sides, intervals flat and very coarsely transversely wrinkled and sparsely pilose. *Underside* distinctly but not coarsely punctate. In the male the front *tibiae* a little bent at apex, the hind tibiae slightly flattened and widened. *Dim.*—9-10½ × 3½-4 mm.

Hab.—Queensland: Port Denison (F. Taylor); Townsville (Ejnar Fischer, in the Melbourne Museum), Kuranda, and Cairns (A. M. Lea).

Eight specimens examined, of which three, including both sexes, were sent me some time ago by Mr. Taylor. The species is distinguished by the combination of subopaque black surface, dark antennae, pale legs with darker knees, and strongly cross-wrinkled elytral intervals. In the male specimen the 1st, 3rd, 5th, and 7th elytral intervals are clearly narrower than the rest. Types in the author's collection.

Homotrysis doddi, n. sp.

♂. Elongate-oblong, chocolate-brown; palpi, apical antennal joints, and tarsi paler. Upper-surface (especially at sides) clothed with short, recumbent pile.

Head and pronotum finely, densely (confluently) punctate; labrum prominent and pilose, eyes large, moderately prominent, separated by a space less than the diameter of one, this space rapidly widening behind; antennal joints sublinear, each slightly widened at apex, lessening in length from the 3rd outwards, apical two very short. *Prothorax* truncate at apex and base, widest at middle; gently, arcuately narrowed in front; feebly sinuate behind; anterior angles depressed (widely obtuse from above), posterior subrectangular; disc without medial line; basal foveae lightly impressed. *Scutellum* oval. *Elytra* wider than prothorax at base, shoulders squarely rounded, sides subparallel, or lightly compressed behind shoulders; striate-punctate, the seriata punctures subcontiguous and fine; intervals of uniform width, convex, finely but densely rugose [under a strong lens this rugosity seen to consist of numerous fine tubercles, often bearing a short red hair]. *Underside* densely punctate, abdomen very finely so. *Legs* simple, posterior tarsi with 1st joint nearly as long as the rest combined. *Dim.*—8-9 × 3½-3¾ mm.

Hab.—Western Australia: Fortescue River, Hammersley Range (W. D. Dodd).

Two examples (males), which I name after the collector, a son of the well-known Kuranda naturalist. It is nearest in form and sculpture to *H. pascoei*, Macl., from which it differs in (1) smaller size, (2) much finer sculpture of pronotum, (3) elytral sculpture, which in *H. pascoei* consists of large cancellate punctures in striae, with finely punctured and wrinkled intervals. Types returned to the South Australian Museum.

Homotrysis post-tibialis, n. sp.

Elongate-ovate, castaneous (elytra slightly darker); antennae and legs pale red. Upper-surface clothed with upright, pale-red hairs, legs smooth.

Head finely, densely punctate; eyes very close in male (intervening space the length of 2nd antennal joint), more distant in female; antennae sublinear-joints lightly enlarged at apex, 3-9 subequal in length, slightly successively widening. 10 and 11 of same length, but finer. *Prothorax* widest at base, sides nearly straight to middle, thence rounded and narrowed to apex; truncate at apex and base, posterior angles rectangular; disc rather coarsely, sparsely punctate, without medial line, with three shallow depressions at base. *Elytra* oval, slightly wider than prothorax at base, shoulders rounded; striate-punctate, the striae fine, small seriate punctures clearly evident on basal half only; intervals flat and punctate, the punctures here of about the same size as the seriate. *Epipleurae* and sternum coarsely punctate, abdomen striolate, the apical segments punctate. Posterior *tibiae* of male triangularly widened into a tooth near apex. *Dim.*—7½-9 × 2½-3 mm.

Fig. 1.

Hab.—South-western Australia (the Author). Swan River (J. Clark).

Four examples, two of each sex, before me are distinct from *H. fusca*, Blackb., and *H. nigricans*, Hope, by differences of colour, sculpture, and the male tibiae; no other species comes very near it. Type male in Author's Collection, female in South Australian Museum.

Homotrysis rufo-coerulea, n. sp.

Elongate-ovate. Head, prothorax, underside, basal joints of antennae, and base of femora red; elytra blue, knees and tibiae (in part), antennae obfuscate. The whole thickly clad with upright, whitish hair.

Head and pronotum rather coarsely punctate; eyes in male closely approximate, in female less so, in both the intervening space obliquely widened behind; antennae rather stout, joint 3 cylindric, 4-10 subtriangular and short, 11 finely ovate. *Prothorax* about as wide as long, sides parallel behind, arcuately narrowed in front, apex a little produced in middle; base truncate, posterior angles rectangular. *Elytra* wider than prothorax at base, shoulders rather prominent, sides subparallel for the greatest part, not widened behind; striate-punctate, the seriate punctures round, small, rather close, placed in fine striae; intervals flat and clearly punctured. *Metasternum* coarsely, abdomen very finely punctate. *Dim.*—7 × 2½ mm.

Hab.—Queensland: Richmond, on white berry bush (Aug. Simson); Cairns district (A. M. Lea).

Three specimens, one male, of this pretty little species examined. Though very unlike its congeners in its bright colours, I can find no structural characters which separate it from *Homotrysis*. In one example the femora are red. Types in the South Australian Museum.

HOMOTRYSIS SCUTELLARIS, n. sp.

Obovate, robust; head, prothorax, and tarsi black, elytra and underside violet-brown, tibiae pale castaneous, antennae fuscous. Whole surface clothed with whitish hairs, short on elytra, longer on pronotum, dense and short on scutellum, thick and long on under-surface.

Head and pronotum densely punctate; eyes prominent and widely separated (more widely than in *H. cisteloides*, Newm.), antennae linear, joints 3-10 successively shorter, 11th narrow and as long as 10. *Prothorax* rhomboidal, transverse, truncate at apex and base, sides rounded anteriorly and thence straightly widened to the base, with a faint medial depression and a shallow central-basal fovea. *Scutellum* white, entirely covered by close recumbent white hair. *Elytra* considerably wider than prothorax at base and more than three times as long; convex, the sutural region evidently higher than the general surface; widest behind middle, shoulders rather squarely rounded; striate punctate, the punctures in striae round, close, and regular; intervals flat at base, slightly convex towards apex, minutely wrinkled and lined with short white hairs. *Underside* densely pilose. Male with usual evident forcipital process; female larger, especially wider, eyes more widely separated. *Dim.*—Male, 9½ × 4; female, 12 × 5.

Hab.—New South Wales: Werris Creek, etc. Queensland: Brisbane.

This is the species identified by Blackburn as *H. canescens*, Hope (=*maculata*, Haag.), and which I so considered in my Revision and Tabulation.[4] I have gladly revived Bates' MSS. name. It is a short, robust species of the *carbonaria* group, and easily distinguished from both *H. carbonaria*, Germ., and *H. cisteloides*, Newm., by the larger seriate punctures and minute punctures of intervals, *inter alia;* from *H. regularis*, Macl., it is distinguished by colour, pilose clothing, and smaller seriate punctures. Types in the Author's Collection.

HOMOTRYSIS VARIOLOSUS, n. sp.

Elongate-oblong, black, subnitid; pilose; extreme edge of clypeus and of labrum pale red, antennae piceous, their apical joints (also tarsi) reddish.

Head coarsely punctate, eyes large and transverse, separated by a space of half the diameter of one eye; antennae long and tapering, joints linear, 3-11 successively a little shorter and finer than preceding. *Prothorax* widest at base, sides parallel behind, lightly converging on apical half, apex as wide as head, subtruncate at apex and base, posterior angles rectangular, anterior obtuse; disc rugose-punctate, some fine vermiculate ridges near centre, more clearly punctate at sides and base; without medial impression, faintly depressed near hind angles; sparsely clothed with long, upright, reddish hairs. Scutellum triangular. *Elytra* considerably wider than prothorax at base, and nearly thrice as long, shoulders fairly prominent, sides a litle widened behind middle with narrow horizontal border; rather thickly clothed with upright hairs at sides and apex; coarsely striate-punctate, the spaces between intervals almost wholly occupied by a coarse system of irregular punctures, varying from large irregularly-shaped ones (where the intervals become, in consequence, undulate) to irregular clusters of smaller ones (sometimes continued in a larger one); intervals convex, a row of unusually large punctures on extreme sides. *Epipleurae*, prosternum, and metasternum coarsely punctate, abdomen more finely so. *Legs* hairy and punctate. *Dim.*—$12 \times 4\frac{1}{2}$ mm.

Hal.—New South Wales: Belltrees, near Scone (S. Jackson).

A single male example, remarkable for the combination of elongate form, dark colour, hairy clothing, and unique elytral sculpture (somewhat as in *Hybrenia occidentalis*). Type in Author's Collection.

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[4] *L.c.*, pp. 80, 81.

The species of *Homotrysis* described above may be distinguished, *inter se*, as follows: —

1	10	Unicolorous (prothorax and elytra of same colour).	
2	6	Colour black.	
3	5	Legs dark.	
4		Size, 12×4½ mm. Seriate punctures large or in clusters	*variolosus*, n. sp.
5		Size, 9×2½ mm. Seriate punctures small	*nigricans*, Hope
6		Legs testaceous	*pallipes*, n. sp.
7	9	Colour chocolate-brown (style of *H. pascoei*, Macl.).	
8		Elytra with seriate punctures large and square, intervals punctate ...	*kershawi*, n. sp.
9		Elytra with seriate punctures small, intervals rugose	*doddi*, n. sp.
10		Colour castaneous, post tibiae of male dentate	*post-tibialis*, n. sp.
11	13	Bicolorous.	
12		Form robust (style of *H carbonaria*, Germ.), colour black and brown ...	*scutellaris*, n. sp.
13		Form narrow, prothorax red, elytra blue	*rufo-coerulea*, n. sp.

HYBRENIA OCCIDENTALIS, n. sp.

Rather widely obovate, black (in one specimen the femora red). Upper-surface rather thickly pilose.

Head closely and rather strongly punctate; the eyes separated by a space of about half the diameter of one eye; antennae with joints 3-6 subequal (the rest wanting). *Prothorax* widely subrhomboidal, and rather flat, the apex slightly advanced in the middle, anterior angles widely rounded, sides nearly straight; widest at base, this truncate, posterior angles acute, surface coarsely punctate, the punctures not very close, each bearing a short upright red hair, basal foveae triangular. *Scutellum* widely triangular, punctate. *Elytra* at base slightly wider than, and closely fitting, prothorax, and about two and a half times as long; gradually widening to near apex, then abruptly narrowed, striate-punctate, intervals convex and punctate; the punctures in striae and on intervals of equal size and commingled, the former in groups rather than in linear series; the middle and front half of elytra having rows of subreticulate impressions, each reticulation containing a cluster of about three punctures; the whole with sparse, short clothing of red hair. *Prosternum* rugose, mesosternum and metasternum coarsely punctate, abdomen more finely so. *Dim.*—12-13 × 5½-6 mm.

Hab.—Western Australia: Geraldton (J. Clark).

Two specimens (both, I think, male) belong to a species near *H. vittata*, Pasc., var. *concolor*, Cart., in facies, but with

much coarser sculpture, more hirsute clothing, and convex elytral intervals. The sculpture is nearest that of the Eastern Australian *elongata*, Macl., but the latter is quite differently shaped, and has a still more coarsely punctured pronotum. Type in South Australian Museum.

Hybrenia pilosa, n. sp.

♂. Elongate-obovate, black nitid. Body sparsely clothed with upright red hairs, legs more densely so.

Head rather densely punctate; eyes large, prominent, very close (separated by a space about the length of second antennal joint); joints of antennae linear, 3 longer than 4, thence successively shorter to 8, rest wanting. *Prothorax* apex bisinuate, produced in middle; here about as wide as head; truncate and widest at base; sides parallel on basal half, thence lightly converging in front; disc rather coarsely and closely punctate, the punctures more sparse towards sides; a faint medial depression on front half and two wide foveate impressions at base, and a slight depression at middle near base. *Elytra* considerably wider than prothorax at base, shoulders prominent, sides lightly widening behind middle; striate-punctate, the seriate punctures close, increasing in size from suture to sides, placed in deep striae; intervals convex, finely punctate and transversely wrinkled; a row of large punctures on the epipleurae. *Metasternum* coarsely, abdomen finely punctate. Posterior *tarsi* mutilated. *Dim.*—14-16 × 5½-6 mm.

Hab.—Western Australia: Geraldton (J. Clark).

Two examples, both male, are easily distinguished from the five species having convex elytral intervals mentioned in my tabulation[5] by its hairy clothing. Type in the South Australian Museum.

Hybrenia torrida, n. sp.

Elongate, narrowly obovate, brownish-black; tarsi and antennae reddish; upper-surface sparsely clad with short reddish hair.

Head closely punctate, eyes in male approximate, but not contiguous; in female more widely separate; antennae sublinear, 3 longer than 4; 5-11 subequal in length but narrowing towards apex. *Prothorax* subrhomboidal and depressed, sides rounded anteriorly, posterior angle rectangular, base and apex truncate, disc densely, subrugosely punctate; the punctures moderately large; faintly bi-impressed at base, and sometimes subobsoletely impressed on medial line. *Scutellum* triangular.

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[5] *L.c.*, p. 86.

Elytra wider than prothorax at base and thrice as long, shoulders rounded, sides lightly widened behind middle; striate-punctate, intervals nearly flat on basal half, more convex towards sides and apex; coarsely and closely punctate, the striae deep and clearly cut, the punctures in striae and on intervals of equal size; those in striae forming a close network. *Prosternum* and *metasternum* coarsely and sparsely punctate; *abdomen* and *legs* less coarsely so, except the last segment; this strongly pilose, with large punctures. *Dim.*—Male, 12 × 5 mm.; female, 13 × 6 mm.

Hab.—Northern Territory: Alexandria (W. Stalker).

Three examples from the British Museum show a species nearest *H. elongata*, Macl., but clearly differentiated by (1) more widely separated eyes, (2) more densely punctate pronotum, (3) elytral intervals more convex and more closely punctate. Types returned to the British Museum.

NOCAR SUBFASCIATUS, n. sp.

Very convex, oval; castaneous, legs red. Whole surface rather thickly clothed with white recumbent hair, the elytral clothing arranged more or less in fasciae (the apex, humeral area, and two wide fasciae thus clothed).

Head finely punctate, eyes transverse, separated by a space less than the diameter of one; antennae short, joint 3 slightly longer than 4, these linear, 5-7 obconic, 9-10 cupuliform, 11 ovate, 5-11 successively widening. *Prothorax* arcuately narrowing from base to apex, oblique rounded in front; disc closely covered with recumbent hairs; base lightly bisinuate, hind angles rectangular. *Scutellum* triangular, pilose. *Elytra* convex and oval, closely adapted to prothorax and of the same width at base, widest behind middle; the bald spaces showing a close, even system of punctures. *Underside* more shortly pilose, with longitudinal striation. *Tarsi* clearly lamellate. *Dim.*—$3\frac{1}{2} \times 1\frac{1}{2}$ mm.

Hab.—North-western Australia: Queen Islet (British Museum).

Three examples sent from the British Museum amongst other Cistelidae show the smallest species of the genus yet described, and distinct by its pattern and clothing. Types returned to the British Museum.

N.B.—*Nocar* and *Taxes* are closely allied, as noted by Champion. I think I have identified *T. alphitobioides*, Champ., in specimens from (1) Bathurst Island, Northern Territory, and (2) Stradbroke Island, Moreton Bay. The chief distinction between these genera lies in the widely

separated eyes and more transverse prothorax of *Taxes*. The author also says that the antennae have the 3rd joint shorter than 4th, and the tarsi are obsoletely or feebly lamellate beneath; but neither of these seem to apply to my *alphitobioides* (?), in which joints 3 and 4 of antennae are subequal, while the penultimate tarsi are clearly lamellate, as seen under a Zeiss binocular.

METISTETE CLARKI, n. sp.

Moderately robust, obovate, chocolate-brown, subnitid; palpi, antennae, tibiae, and tarsi red.

Head and pronotum very densely punctate, epistomal furrow well marked; eyes rather narrowly transverse and widely separated; antennal joints sublinear, 3 longer than 4, 4-6 subequal, 7-11 successively shorter, 10-11 very slender and of testaceous colour. *Prothorax* bulbous, transverse, base truncate, apex feebly sinuate, sides widely and evenly rounded; all angles obtuse, medial channel distinct, shallow transverse foveae near hind angles. *Scutellum* wide, rounded behind. *Elytra* wider than prothorax at base, and less than three times as long, slightly widening behind middle; striate-punctate, the small seriate punctures only obvious on basal half, larger and elongate towards sides; intervals nearly flat, sparsely punctate and minutely pustulose. *Abdomen* nearly smooth; sternum rather coarsely punctate. *Dim.*—8-10 × 3½-4 mm.

Hab.—Western Australia: Eradu and Geraldton (J. Clark).

Two examples, the sexes, examined show a species not very near any of its congeners. Type male in Author's Collection; type female with Mr. Clark.

METISTETE RUBICUNDA, n. sp.

Ovate, convex, whole surface subopaque brownish-red; densely clad with short upright pale-red bristles; legs, antennae, and oral organs pale red.

Head finely shagreened, clypeus wide, truncate with rounded sides; mandibles bifid; eyes large, prominent, widely separated, antennae elongate, sublinear, joint 3 considerably longer than 4; 4-6 equal, 7 finer than 6, 8-11 successively and considerably smaller, 11 very small, finely ovate. *Prothorax* ovate and convex, truncate at apex and base, the latter slightly the wider, sides evenly and well rounded, without raised margin except a very narrow one at apex; disc (like head) shagreened and bristled, without sign of medial line or

fovea. *Scutellum* semicircular. *Elytra* ovate and convex, of same width as prothorax at base, shoulders obsolete; sulcate-punctate, the sulci wide, not very deep, containing large square punctures having a circular base; intervals convex, rough, each with a single row of setiform punctures. *Underside* clearly punctate and pilose, hairs recumbent *Dim.*—8-9 × 3 mm.

Hab.—Northern Territory: Daly River (H. Wesselman).

Two examples, both, I think, female, are clearly separated from previously described species by the combination of rough and bristled surface, red colour, and the very distinct elytral sculpture. Type in the South Australian Museum.

METISTETE PROTIBIALIS, n. sp.

Subopaque brownish-black; edge of clypeus, basal joints of antennae and tibiae reddish, oral organs and tarsi paler red. Surface rather densely pilose.

Head and *pronotum* confluently punctate, the punctures on clypeus and pronotum coarser than those on forehead, and forming a system of hexagonal cells; eyes large, prominent, separated by a space as wide as the diameter of one; antennae long and pilose, all jonts clearly enlarged at apex, 3 longest and subcylindric, 4-7 subequal, thence successively narrower and shorter. *Prothorax* very convex, truncate and narrowly margined at apex and base, widest at middle, evenly rounded at sides, lateral margin not evident from above, all angles obtuse (posterior nearly rectangular); disc without sign of medial line or foveae; with moderately thick clothing of very short bristles. *Scutellum* semicircular, densely punctate. *Elytra* considerably wider than the prothorax at base, shoulders squarely rounded, sides lightly enlarging towards apical third, coarsely striate-punctate, each with nine wide striae, besides the short scutellary stria, filled with large square punctures separated by cancellate ridges, the punctures appearing reddish at bottom; the intervals raised, punctate and transversely rugose, the lateral intervals (from the 5th outwards) subcarinate; surface sparsely clad with fine upright red hairs. *Undersurface* coasely punctate and, with the *legs*, clothed with recumbent red hair; front tibiae with a short spine in the middle of inside edge. *Dim.*—Male, 9-11 × 3-4 mm.; female, $11\frac{1}{2} \times 4\frac{1}{2}$ mm.

Fig. 2.

Hab.—Western Australia: Kalgoorlie, Mullewa, Geraldton. Central Australia: McDonnell Ranges. South Australia: Minnipakill.

Nine examples before me, of which seven are males and two females, the latter only being apterous. The males are rather like the species I have tentatively taken as *Homotrysis obscurus*, Borch., but besides the difference in the tibiae, this latter species has the punctures of pronotum larger and clearly separated; while the elytral cancellation is less defined. In the shape of prothorax it is very like the male of *M. gibbicollis*, Newm., but the elytral sculpture is quite different. *M. armatus*, Cart., is larger, more cylindric, with much larger protibial spine, surface glabrous and more nitid, and hind tibiae strongly flattened and curved. The female is more ovate and convex, eyes more widely distant. Types in the South Australian Museum.

METISTETE VICINA, n. sp.

♂. Elongate-ovate, glabrous, opaque brownish-black; elytra more nitid; apical joints of antennae and all tarsi red.

Head and pronotum finely, confluently punctate, eyes moderately wide apart (intervening space about half the diameter of one eye); antennae very fine and thread-like; joint 3 much longer than 4, 4-8 subequal, 9-10 shorter than preceding, 11 shorter than 10. *Prothorax* slightly longer than broad, subtruncate at base and apex, widest behind middle, feebly narrowed in front and even less so behind, basal margin narrowly raised, disc without medial line or foveae. Elytra wider than prothorax at base and nearly four times as long, sides subparallel to behind the middle, thence narrowed to apex; sulcate-punctate, the close subcancellate system of large punctures contained in deep sulci, the intervals convex and strongly punctate. *Protibiae* with a small tooth on inside about half-way. *Dim.*—10-11 × 4-4½ mm.

Hab.—Queensland: Cunnamulla (H. Hardcastle).

Three males show a species that is a curious mixture of several others. The sculpture of head and pronotum and the protibial armature are like *M. protibialis*, the general facies is like *M. gibbicollis*, Newm. (though the prothorax is narrower); the elytral sculpture is very like that of *Homotrysis subsulcata*, Macl. Type returned to Mr. Lea.

MELAPS DENTIPES, n. sp.

Elongate, navicular, castaneous; antennae, legs, and tarsi testaceous. Above sparsely clad with long, pale, upright hairs, beneath more thickly pilose, hairs recumbent.

Head closely and rather coarsely punctate, clypeal suture straight and well marked, mandibles bifid at apex; eyes widely separated; antennae long and slender, extending beyond base of prothorax; joint 3 longer than 4, 5-10 gradually enlarged (though all finely obconic); 11 of same length as but more slender than 10. *Prothorax* convex, about as wide as long, subtruncate at apex and base (feebly produced in the middle at apex), sides gently rounded, all angles obtuse; disc finely and closely punctate, wtihout foveae or medial line, except a slight depression at middle of base, lateral margins not seen from above. *Elytra* wider than prothorax at base and two and one-half times as long; striate-punctate, with close round punctures placed in fine striae, intervals quite flat, each with a row of setiferous punctures of the same size as those in striae. *Femora* robust, fore tibiae with a small tooth at middle, mid-tibiae angulately widened nearer apex, the hind tibiae short, curved, and triangularly widened near apex. *Dim.*—Male, $8 \times 2\frac{1}{4}$ mm.; female, 9×3 mm.

Fig. 3.

Hab.—South Australia: Murray River (A. H. Elston); Tarcoola (A. M. Lea).

Five examples examined, of which two are males, are clearly distinct from described species by the tibial sex characters shown in figure. Type male in the Author's Collection, female in the South Australian Museum.

[N.B.—As the sex characters of this species traverse the slender border-line between *Melaps* and *Metistete*, as given by me,[6] some new distinction is necessary. It may possibly be found later that these two genera merge into one, for it is not easy to find distinct characters which differentiate all the species of the two genera. The following combination of small differences may be noted:—

Metistete.	*Melaps.*
Size: Larger.	Smaller.
Prothorax less strongly convex, sometimes flattened on disc, opaque and coarsely punctate	Very strongly convex, never flattened on disc, more or less nitid, and finely punctate
Elytra in general obovate (at least in female)	Narrowly ovate
Epipleurae moderate	Very narrow
Post intercoxal process widely arched	Narrowly triangular

[6] *L.c.*, p. 78.

The proportion of elytra to prothorax is considerably greater in *Metistete*, the elytra being generally nearly three times the length of prothorax; in *Melaps* not more than two and a half.]

MELAPS GLABER, n. sp.

Elongate-ovate, brownish-black, nitid and glabrous; oral organs, antennae, and legs testaceous.

Head large, epistoma bluntly rounded and rather strongly punctate, rest of head (and pronotum) very finely and closely punctate; eyes small, transverse, and widely separated; antennae with joints 1 and 2 swollen (2 much smaller than 1), 4-10 short, sublinear (very narrowly obconic), 11 oblong, as long as but narrower than 10. *Prothorax* ovate, convex, wider than long; apex subtruncate (with a slightly convex outline), base truncate, sides lightly and evenly rounded, all angles widely rounded off, a very narrow basal margin perceptible, disc without medial line or foveae. *Scutellum* transverse. *Elytra* elliptic, of same width as prothorax at base, humeri obsolete; striate-punctate, the striae very fine, but clearly, not deeply, impressed; the seriate punctures very small, round, and close; the short scutellary series containing larger punctures; intervals quite flat and nearly smooth (a few microscopic punctures can be seen under a strong lens). *Underside* finely striolate. *Dim.*—13-15 × 3-3½ mm.

Hab.—South Australia: Leigh Creek.

Var.—Elytra with deeper, wider striae and larger seriate punctures, the intervals more or less convex.

Four examples, show an unusually smooth species. The variety may be the other sex. I have not been able to make out any sexual characters. As with other members of this genus, it is apterous, and the mandibles are bifid at apex. Types in South Australian Museum.

MELAPS TIBIALIS, n. sp.

Ovate, convex, black (or brownish-black), very nitid, glabrous, front edge of clypeus testaceous; underside, tarsi, and tibiae reddish.

Head densely punctate on forehead, more sparsely so on clypeus, suture shallow and arcuate; eyes small and widely separated; antennal joints linear, 4-10 subequal, 3 slightly longer than 4. *Prothorax* very convex and oval, truncate and finely margined at apex and base, anterior angles obsolete, posterior obtuse, sides evenly rounded; disc with scarcely evident, minute, shallow punctures; without

medial impression or basal foveae. *Scutellum* small, transverse. *Elytra* of same width as prothorax at base; and about twice as long, oval, and convex; striate-punctate, with nine rows (besides a short scutellary one) of round, close, deeply-impressed punctures; these rather small near suture, large near sides, increasing in size outwards; intervals smooth and lightly convex; epipleurae with a single line of punctures. Sides of *prosternum* and of *abdomen* with fine sparse punctures. *Pro-tibiae* of male widened in the middle into a blunt tooth (the female specimen is damaged in the appendages, but has four of its tibiae intact, including one front tibia, which is without the tooth). *Dim.*—10 × 4 mm.

Hab.—Western Australia: King George Sound (Australian Museum).

Two examples, the sexes, can only, I think, be confused with *M. (Oocistela) convexa*, Borch., which (if my identification is correct) differs in smaller size, legs pale and bicolorous, more clearly punctate thorax, besides having (apparently) no sexual characters. Types in Australian Museum.